
PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Smolt Monitoring By Federal And Non-Federal Agencies

BPA project number: 8712700

Contract renewal date (mm/yyyy): 1/1999 ☐ **Multiple actions?**

Business name of agency, institution or organization requesting funding

Pacific States Marine Fisheries Commission

Business acronym (if appropriate) PSMFC

Proposal contact person or principal investigator:

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NPPC Program Measure Number(s) which this project addresses

NPPC Fish and Wildlife Program 3.6F. 10, Sections 303, 503b, 1403.2.8

FWS/NMFS Biological Opinion Number(s) which this project addresses

NMFS Biological Opinion on Hydrosystem Operations, NMFS BO RPA Section 13a

Other planning document references

NMFS 1995 Biological Opinion - RPA Section 8 #16; RPA Section 8 #13 (a)

Short description

Daily passage data through the mainstem, Snake, Columbia and mid-Columbia rivers to facilitate fish passage management decisions, including Biological Opinion implementation, is collected daily. Sampling and marking occur at 8 sites of the larger region.

Target species

yearling chinook, sub-yearling chinook, coho, steelhead, sockeye

Section 2. Sorting and evaluation

Subbasin

Columbia River Mainstem/Snake River Mainstem

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
<input checked="" type="checkbox"/> Anadromous fish <input type="checkbox"/> Resident fish <input type="checkbox"/> Wildlife	<input type="checkbox"/> Multi-year (milestone-based evaluation) <input type="checkbox"/> Watershed project evaluation	<input type="checkbox"/> Watershed councils/model watersheds <input checked="" type="checkbox"/> Information dissemination <input checked="" type="checkbox"/> Operation & maintenance <input type="checkbox"/> New construction <input type="checkbox"/> Research & monitoring <input checked="" type="checkbox"/> Implementation & management <input type="checkbox"/> Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
20552	SMOLT MONITORING PROGRAM
8712703	Imnaha River SMP
8712702	Comparative Survival Study
8712700	Smolt Monitoring (Federal and Non-Federal)
8332300	Monitor Smolts at the Head of Lower Granite Reservoir and Lower Granite Dam
940330	Fish Passage Center
8332300	Smolt Condition & Arrival Timing
8401400	SMP Marking

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
9008000	PITAGIS	Critical Component
9602100	Gas Bubble Disease Research & Monitoring	Critical, one task only

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1998	Completed all tasks & objectives	yes
1997	Completed all tasks & objectives	yes
1996	Completed all tasks & objectives	yes
1995	Completed all tasks & objectives	yes

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Smolt Monitoring - Lower Granite	a	Sample migrants daily in the sample system
		b	Monitor Gas Bubble Symptoms according to FPC protocols
		c	Transmit Data according to FPC protocol
		d	Conduct data verification procedure according to FPC protocols
		e	Project management, planning, work statement/budget preparation
		f	Conduct sampling for implementation of the Smolt Transportation Program
2	Smolt Monitoring - McNary	a	Sample migrants daily in the sample systems
		b	Conduct data verification procedure according to FPC protocol
		c	Monitor for Gas Bubble Symptoms according to FPC protocols
		d	Transmit Data according to FPC protocol
		e	Project management, planning, work statement/budget preparation
		f	Conduct sampling for implementation of the Smolt Transportation Program
3	Smolt Monitoring - Grande Ronde	a	Sample migrants daily in the Sample System
		b	Apply PIT Tags
		c	Transmit Data according to FPC

			protocol
		d	Conduct data verification procedure according to FPC protocol
		e	Monitor for gas bubble symptoms according to FPC protocols
		f	Project management, planning, work statement/budget preparation
4	Smolt Monitoring - Little Goose	a	Sample migrants daily in the sample system
		b	Monitor Gas Bubble Symtoms according to FPC protocols
		c	Transmit Data according to FPC protocol
		d	Conduct data verification procedure according to FPC protocol
		e	Project management, planning, work statement/budget preparation
		f	Conduct sampling for implementation of the Smolt Transportation Program
5	Hanford Reach Monitoring	a	Apply PIT Tags
0		b	Sample migrants daily in the sample system
0		c	Monitor Gas Bubble Symtoms according to FPC protocols
0		d	Transmit data according to FPC protocol
0		e	Project management, planning, work statement/budget preparation
0		f	Conduct data verification procedure according to FPC protocol
6	Smolt Monitoring - Lower Monumental	a	Sample migrants daily in the sample system
		b	Monitor Gas Bubble Symtoms according to FPC protocols
		c	Transmit data according to FPC protocol
		d	Conduct data verification procedure according to FPC protocol
		e	Project management, planning, work statement/budget preparation
		f	Conduct sampling for implementation of the Smolt Transportation Program
7	Smolt Monitoring - Rock Island	a	Sample Migrants daily in sample

			system
		b	Monitor Gas Bubble Symtoms according to FPC protocols
		c	Apply PIT Tags
		d	Transmit Data according to FPC protocol
		e	Conduct data verification procedure according to FPC protocol
		f	Project management, planning, work statement/budget preparation
8	Smolt Monitoring John Day Dam	a	Sample migrants daily in the sample system
		b	Monitor for gas bubble symptoms according to the FPC protocols
		c	Transmit data according to FPC protocol
		d	Conduct data verification procedures according to FPC protocols
		e	Project management, planning, work statement/budget preparation
9	Smolt Monitoring at Bonneville Dam	a	Sample migrants daily in the Bonneville I sample system
		b	Monitor for gas bubble symptoms according to the FPC protocol
		c	Transmit data according to the FPC protocol
		d	Conduct data verification procedures according to the FPC protocol
		e	Project management, planning, work statement/budget preparation

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	3/2000	11/2000			14.00%
2	3/2000	12/2000			13.00%
3	4/2000	11/2000			12.00%
4	3/2000	6/2000			8.00%
5	3/2000	7/2000			2.00%
6	4/2000	11/2000			5.60%
7	4/2000	9/2000			12.20%
8	3/2000	11/2000			15.00%
9	3/2000	11/2000			18.20%
				Total	100.00%

Schedule constraints

None

Completion date

Unknown

Section 5. Budget**FY99 project budget (BPA obligated):** \$1,818,082***FY2000 budget by line item***

Item	Note	% of total	FY2000
Personnel	Includes Fringe Benefits	%67	1,255,201
Fringe benefits		%0	
Supplies, materials, non-expendable property		%0	
Operations & maintenance	Includes supplies, materials, etc.	%9	161,459
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		%1	27,604
NEPA costs		%0	
Construction-related support		%0	
PIT tags	# of tags:	%4	72,500
Travel		%2	29,761
Indirect costs		%17	323,924
Subcontractor		%0	
Other		%0	
TOTAL BPA FY2000 BUDGET REQUEST			\$1,870,449

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount (\$)
COE	Funding Transportation LGR	%3	66,690
(reimbursable)	Sampling LGS	%3	68,036
	LMN	%3	56,135
	MCN	%3	73,130
Total project cost (including BPA portion)			\$2,134,440

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	\$2,177,130	\$2,242,440	\$2,309,715	\$2,379,006

Section 6. References

Watershed?	Reference
<input type="checkbox"/>	Fish Passage Center Annual Reports 1985 through 1997.
<input type="checkbox"/>	FPC Web Page
<input type="checkbox"/>	Fish Passage Center Weekly Reports 1985-1997
<input type="checkbox"/>	Bonneville and John Day Monitoring Annual Reports 1985-1997
<input type="checkbox"/>	McNary Monitoring Annual Reports 1992-1997
<input type="checkbox"/>	Lower Monumental Annual Reports 1992-1997
<input type="checkbox"/>	Little Goose Monitoring Annual Report 1992-1997
<input type="checkbox"/>	Lower Granite Annual Reports 1992-1997
<input type="checkbox"/>	Lower Grande Ronde Annual Reports 1992-1997

PART II - NARRATIVE

Section 7. Abstract

The federal and non-federal smolt monitoring program (SMP) is a component of the Umbrella Smolt Monitoring Program and provides data on movement of smolts out of major drainages and past the series of dams on the Snake and Columbia rivers. The monitoring sites are the Lower Granite, Little Goose, Lower Monumental, McNary, John Day, Bonneville, Rock Island dams and the Lower Grande Ronde River trap. Indices of migration strength and migration timing are provided for the run-at-large at key monitoring sites. In addition, marked smolts from hatcheries, traps, and dams provide measures of smolt speed and in-river survival through key index reaches. Fish quality, descaling, and gas bubble trauma measures are taken on samples of fish collected at each monitoring site, and provide indicators of the health of the run. These data are used for in-season operational decisions, including implementation of the Biological Opinion measure, relative to flow and spill management, particularly during periods when spill is being provided to improve smolt passage.

Section 8. Project description

a. Technical and/or scientific background

This project is a component of the Umbrella proposal for the Smolt Monitoring Program. Daily information on the status of the smolt outmigration for in-season fish

passage management needs through the collection and sampling of smolts at monitoring sites in the Columbia and Snake rivers. Aspects of monitoring that are unique at each site are detailed in this section. The SMP is mandated by the Northwest Power Planning Council Fish and Wildlife Program and is required to implement the measures of the NMFS Biological Opinion. Data developed through the SMP is utilized in development and testing of hypothesis in the regional PATH process.

b. Rationale and significance to Regional Programs

This project includes the non-federal and federal entities part of the regional Smolt Monitoring Program (SMP). The regional SMP includes several other projects identified in the SMP umbrella proposal. The SMP data provides an essential component for making real time and future decisions regarding flow augmentation and spill as they affect wild and hatchery salmonid stocks in terms of survival and rate of migration, and migration timing. Gas bubble trauma data is particularly relevant to strategies for spill and flow management as it relates to implementation of NMFS Biological Opinion measures. Decision-makers utilize information from the SMP on the spring and summer outmigration timing of wild and hatchery chinook salmon and steelhead trout smolts. They also use the data on PIT tagged fish arrival timing at dams, travel time to the